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The impact of parents and peers on teenage sexual behavior

Kennedy, Barbara Ann Henderson, Ph.D.

Iowa State University, 1991

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The impact of parents and peers
on teenage sexual behavior

by

Barbara Ann Henderson Kennedy

A Dissertation Submitted to the
Graduate Faculty in Partial Fulfillment of the
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1991

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CHAPTER 1. REVIEW OF LITERATURE

Introduction

Beginning sexual activity is a normal and important aspect of development, marking in part the transition to adulthood. Although the average age for the onset of puberty has declined in the twentieth century, the general cultural expectation is that young biologically mature adolescents will delay sexual activity (Scott-Jones, 1990). Thus initiation of sexual activity has become for American teens an important life-course transition into adultlike roles. The first time a person engages in sexual intercourse is a "rite of passage," a transition from the adolescent world of childhood innocence into the world of adult sexuality (Forste & Heaton, 1988).

In the 1970s, there was a major transformation in sexual behavior in the United States. Although this transformation presumably affected the majority of Americans, it is among teenagers that the change has been best documented and the consequences have probably been most severe. There were two major aspects to the transformation: both females and males were becoming sexually active at younger ages and fewer teenagers were marrying. As a result, there were more sexually experienced adolescents than in earlier generations, and a more rapid increase in the incidence of premarital intercourse for females than males.

Estimates of the proportion of teenagers who had ever engaged in premarital sexual intercourse were obtained in 1971, 1976, and 1979 in three National Surveys of Young Women (NSYW) (Zelnik & Kanter, 1980). These surveys were the first to provide national estimates of teenage sexual experience. Among 15-19 year old women living in metropolitan areas, the percentage reporting premarital sexual activity rose from 30.4 in 1971 to 43.4 in 1976 and to 49.8 in 1979, an increase of 64% over the period (Gerrard, 1987).

The relative share of births to teenage girls, as opposed to adult women, increased substantially, from 12% in 1955 to 16% in 1979 and 29% of all first births were to female teenagers in 1979. This is because the absolute number of teenagers is large (due to the baby boom) and because fertility rates for women in their 20's have declined even more rapidly than those for female teenagers. Perhaps the most pressing problem is that more and more babies are being born out of wedlock than ever before. Out-of-wedlock fertility rates have soared; the percentage of all births to female teenagers that were out of wedlock jumped from 14% in 1955 to 53% in 1983 (Brooks-Gunn & Furstenberg, 1987).

During the 1980s there was a continued increase in the incidence of sexual intercourse among teens, though the magnitude and consistency of the changes were weaker during the 1980s than the 1970s. Data from the 1988 National Survey of Family Growth indicate that by age 15, approximately

one-quarter of females have had sex; by age 19, four out of five females have had sexual intercourse (Sonenstein et al., 1989). Data from the 1988 National Survey of Young Men indicate that a third of teen males have had sex by age 15, as have 86% by age 19 (Sonenstein et al., 1989).

Pregnancy, among women aged 15 to 19, was also found to be increasingly prevalent. From a base of 95/1000 in 1972 the rate increased to 111/1000 in 1981. Teenage birthrates, like those for all women, have declined steadily and substantially, from 86/1000 in 1952 to 62/1000 in 1972 and to 52/1000 in 1983. This decline is unevenly distributed: The rate for younger teenagers (15-17) decreased considerably less than that for women 18 to 19, and the rate for youngest remained virtually unchanged. The actual rates (as of 1983) are 78/1000 for women 18-19, 32/1000 for those 15 to 17 and 1.1/1000 for those younger than 15. The birthrate for unmarried teenagers aged 15 to 19 increased from 23/1000 (1972) to 29/1000 (1982); the estimate for 1983 is 30/1000. The difference between the pregnancy and fertility rates is accounted for primarily by abortions, about 45% of pregnancies terminate in abortion and some 5 to 6% in miscarriages (Ginzberg et al., 1988).

In the mid-1980s, almost one million teenage girls were estimated to have become pregnant annually. Almost half of these teenage girls gave birth. By 1986, there were about 472,000 births to female teens younger than age 20; among

these were 179,000 births to female teens age 17 and younger, and 10,000 births to girls age 14 and younger. In other words, almost 500 babies were born each day in 1986 to girls who were of school age (National Center for Health Statistics, 1988).

The illegitimacy rate, reflecting births to unmarried women aged 15-19 has almost doubled from 1960 (15.3 per 1,000) to 1980 (27.5 per 1,000) (National Center for Health Statistics, 1984). Not only has the percentage of teen births out of wedlock increased from 15% of total teen births in 1960 to 48% in 1980, the percentage of marital first births, premaritally conceived, has also risen (Yamaguchi & Kandel, 1987). These totals mask the fact that the increase has taken place exclusively among whites, although at any one time, blacks have much higher rates of premarital pregnancy and illegitimacy than whites (National Center for Health Statistics, 1984).

None of these statistics reflect the financial and human costs of early parenthood for the teenage mother. Pregnancy brings with it a number of biological risks. Many of the health dangers to mother and child can be lessened through high-quality health care. However, teenage girls, who have the highest health risk from pregnancy and childbirth, continue to receive the least adequate medical attention during their pregnancies. Mothers aged 15 or younger are two and one-half times more likely than mothers aged 20 to 24 to

be without prenatal care in the first three months of pregnancy and nearly four times more likely to get no care at all or to delay it until the last trimester (Group for the Advancement of Psychiatry, 1986). Inadequate prenatal care places the young woman at increased risk of delivering a low birth weight (5.5 lbs. or less at birth) baby. Babies of these young mothers who receive late or no prenatal care are three times more likely to die in their first year of life than those babies who receive early care (Children's Defense Fund, 1986).

In addition, there is an increased incidence of obstetrical complications encountered with teenage pregnancies. Teenage mothers are 15% more likely to suffer from toxemia, 92% more likely to have anemia, and 23% more likely to suffer from complications related to premature birth than are mothers who give birth at an older age (Children's Defense Fund, 1986).

Teenage pregnancy is associated with leaving school before high school graduation. An economy increasingly oriented to services, literacy, numerical skills, and similar competencies, requires satisfactory completion of high school. The school dropout faces a loss of opportunity for future economic security. Forty per cent of teenage girls who drop out of school do so because of premature pregnancy or early marriage. Only half of the female teens who become parents

before age 18 graduate from high school (Adams-Taylor & Pittman, 1989).

Early childbearing has an impact on society. When individuals cannot realize their full educational and occupational potential, society loses their economic contributions (Hofferth, 1987). More directly, early childbearing leads to greater use of public services, there is a direct impact on public expenditures. Initial estimates of the public sector costs related to early childbearing indicate that in 1975 a total of \$8.55 billion was expended on Aid to Families with Dependent Children (AFDC) households in which the mother was a teenager at the time she bore her first child (Moore, 1986).

Another consequence of teenage premarital intercourse is the devastating spread of venereal diseases in this country. In the late 1960s and early 1970s, due to effective treatment available for most sexually transmitted diseases, a more liberal attitude toward premarital intercourse existed. This attitude is changing due to three reasons, the realization that unyielding strains of some venereal diseases are developing, the more widespread appearance of genital herpes and the appearance of acquired immune deficiency syndrome (AIDS) (Hofferth, 1987).

The psychological makeup of the sexually active teenager is a particular concern. Koyle et al. 1989 reported the following: sexually active girls were significantly more apt

to demonstrate a greater number of disruptive, deviant or delinquent behaviors than nonactive girls. They more frequently reported incidents of fighting in junior high school and running away from home. They disobeyed parental rules more often and were more likely to use alcohol and drugs. Additionally, they acquired lower cumulative grade-point averages, skipped classes, and broke school rules more frequently.

Review of the Literature

This review of prior research on adolescent sexual activity examines family influences, the impact of demographics, the effect of peers' on teen's sexual behaviors and the influence of physical-sexual development.

Introduction

The high rates of early childbearing and the overwhelmingly negative consequences associated with these rates have stimulated considerable interest in the factors that affect the chances that a female teenager will have a child. A variety of antecedents have been examined, including parent-child relationships; peer influence; self-esteem, life opportunities, knowledge of and access to contraceptives; and participation in sex education courses (Hanson et al., 1987).

Other research on adolescent sexual behavior has generally focused on historical trends and attitudes toward nonmarital

sexual and reproductive behavior, the prevalence of nonmarital sexual activity, pregnancy, abortion and child-birth as well as the social and social psychological correlates of nonmarital sexual behavior. Assessing incidence, age of beginning sexual activity and changes through time of various activities are additional areas of adolescent sexual activity that have been examined (Newcomb et al., 1986).

Family

The socialization of attitudes concerning sexuality and the learning of appropriate norms of sexual behavior begin early in life and are influenced by the environment in the home and the values and behavior of parents. The family is central in the formation of sexual attitudes and behavior because it provides the child with role models, a social and economic environment, and standards of sexual conduct (Thornton & Camburn, 1987). The specific dimensions of family life influencing the formation of attitudinal and behavioral patterns among adolescent children are still only dimly understood, despite the recognition of the importance of the family and awareness of the simultaneous trends in family life and adolescent sexuality (Thornton & Camburn, 1987).

Sexual learning begins at birth and continues throughout life, resulting from social interaction with one's social environment. Many components of the social environment, such as family, peers and media, have an impact on sexual attitude

and behavior development. Among these factors, home-based sex education involving the parent-child relationship is considered by many to be a major contributor to sexual learning, especially in early life. However, the actual influence of parents on sexual learning is still being studied to gain greater understanding of this process (Yarber & Greer, 1986).

The role of the family in the adolescent's transition to sexual intercourse has increasingly been emphasized in research on adolescent sexual activity. Characteristics of the family provide the setting in which sexual attitudes, expectations, values, and behavior are transmitted and formed, quite apart from any biological inheritance that may affect sexual behavior (Weinstein & Thornton, 1989).

A set of assumptions exists about the ways in which parents and peers contribute to adolescent socialization: that higher levels of parental influence are associated with increased conformity to adult attitudes and behavioral norms, peer influence is associated both with nonconformity to alternative peer norms in support of so-called problem behaviors, parent and peer norms are frequently in conflict that peer influence is more powerful than influence from parents, either because peers are a more attractive reference group or because of parental abdication of responsibility (Nathanson & Becker, 1986).

Parenting practices

Studies using adolescent reports of parental behavior have found small but significant effects on teenagers sexual behavior. One exemplar study is by Jessor and Jessor (1975). They asked their sample of U.S. tenth, eleventh and twelfth graders about the support they perceived their parents giving them and about the types of control over their behavior the adolescents perceived their parents having. Comparison of nonvirgins and virgins showed significant but small "parental" effects with more support and more control associated with less sexual behavior. However, when Time 3 variables were used to predict the transition to intercourse by the next year, those parental variables were not significant.

Older teenagers are more likely both to have engaged in sexual intercourse and to perceive less parental control over their behavior, therefore the relationship between experience and control may be confounded by the relationship of both with the adolescent's age. The causal ordering of sexual experience and perception of lack of parental support may go in either direction. Teenagers who have intercourse may then feel more distant from their parents. This seems as likely as an actual lack of parental support precipitating adolescent sexual intercourse (Newcomer & Udry, 1984).

Miller et al. (1986) found a curvilinear relationship between adolescents' perceptions of parental strictness and rules and the adolescents' sexual attitudes and behaviors.

Sexual activity and permissiveness were found to be highest among adolescents whose parents were least strict, lowest among those who said their parents were moderately strict, and intermediate among teens who perceived their parents as being very strict. The parents' own reports of their dating rules were less strongly related to their adolescent sons' and daughters' reports of sexual attitudes and behavior. Therefore, home environments that are too liberal or too conservative are associated with a higher incidence of teenage sexual behavior (Miller et al., 1986).

Overall, this research found that strained parent-child interactions and communication coupled with the lack of parental supervision were associated with greater chances of teenage pregnancy (Miller et al., 1986). When parents were found to have good relationships and communication with their children, they were more likely to be influential in their children's lives. This influence may lead to the children delaying sexual activity or to engaging in more effective contraceptive practice (Miller et al., 1986).

Although relatively few parents are actually the primary sex educators of their children, the results of Fisher (1986) studies suggest that, when parents do talk to their children about sex, the adolescents tend to be less likely to engage in premarital sex (Fisher, 1986). A number of researchers have explored the effects of parental communication and control of sexual activity. Using the 1981 National Survey of Children,

Moore et al. (1986) hypothesized that parental communication and monitoring of adolescent children would discourage premarital sexual activity.

It was found that the influence of maternal-child relations on children's attitudes and behavior depended upon the attitudes of the mother. Close parent-child relations were found to consistently diminish sexual experience only in mother-child pairs in which maternal attitudes were restrictive. Additionally it was found that close parent-child relations increased sexual experience when the mother possessed permissive attitudes.

Among males as well as females, children whose parents know all or most of their friends are less likely to be sexually experienced, although the association reaches statistical significance only among females. Sons whose parents tended to listen and to discuss decisions with them are somewhat less likely to be sexually experienced, but no effect was found for daughters.

Those daughters who reported that their parents had discussed sex with them were somewhat less likely to have had sex, however, a fairly large effect in the opposite direction was found among sons. Sons who reported that their parents had discussed sex with them were somewhat more likely to have experienced sexual intercourse (Moore et al., 1986). Two-thirds of the adolescent females reported discussions with

parents about sex while only one-sixth of the males reported such discussions.

In the Moore et al. study, the parents were divided into groups according to whether or not the family attitudes expressed by the parent were traditional or non-traditional. For daughters, parental traditionality was clearly associated with a lower prevalence of sexual activity. Those adolescent females whose parents expressed traditional attitudes about marriage and family life were only one half as likely to report having engaged in sexual intercourse as those with less conservative parents (9% versus 20%) (Moore et al., 1986).

Among white males, however, parental attitudes were not found to be associated with the reported prevalence of sexual experience. This may have occurred because the parent interview was often completed by the mother rather than the father; the mother's attitudes may be less relevant for sons than for daughters. However, it may also be that parents do not express their attitudes as readily or as explicitly to sons as to daughters. Only 17% of the sons reported discussing sex with either parent, compared with 67% of the daughters. In addition, parental communication appears to have little impact on sons, regardless of parental attitudes. In fact, among more traditional parents, discussing sex with a son was associated with a higher incidence of premarital sexual activity (Moore et al., 1986).

Sons who reported that their parents often listened to them and discussed decisions with them were less likely to be sexually experienced, providing the parents held traditional attitudes. This association between general communication and less sexual activity among the sons of traditional parents suggests that communication in these families may precede the initiation of sex and cause its postponement. It appears then that few parents initiated discussions about sex with sons until evidence of sexual activity lead parents, especially traditional parents, to do so (Moore et al., 1986).

Among 15-and-16 year olds in the survey, parental discussion was associated with less frequent initiation of sexual activity only for daughters of parents with traditional family values. The effect of family communication seems to depend upon parental beliefs and whether the adolescent is a son or daughter (Moore et al., 1986).

In the Moore et al. study (1986) discussion about sexual activity was found to have little impact among the children of parents with less traditional attitudes. Among daughters of traditional parents, the incidence of sexual activity was lower when the parents discussed sex and/or television programming with their daughters. It was found that the more traditional parents discussed decisions with their daughters, the lower the incidence of sexual activity was among the daughters. Among sons, a tendency on the part of traditional parents to listen to their sons and to discuss decisions was

related to a lower probability of sexual activity; however, the discussion of sex per se is associated with a greater likelihood that sons were sexually experienced. It is possible that the topic of sex was raised with sons in traditional families only after sons had become sexually active. Therefore, the discussion of sex seems to have the effect of delaying sexual activity primarily among the daughters of traditional parents (Moore et al., 1986).

Parental attitudes

The attitudes and beliefs of parents form the basic foundation for the values of their children. Although direct communication between parents and children about sexuality is limited in many families, parents may be sources of guidelines for children as they both directly and indirectly transmit their standards of conduct during the socialization process. Parental attitudes and values concerning premarital sexuality may also affect their own patterns of discipline and childrearing, which, in turn, influence the behavior of their children. Parents with restrictive attitudes toward adolescent sexuality may structure their own activities to provide more supervision of their adolescent children and to allow their children less autonomy, which may reduce adolescent sexual behavior (Thornton & Camburn, 1987).

Using 10,000 females in the sophomore cohort of the nationally representative High School and Beyond Survey,

Hanson et al. (1987) found that attitudes and values of adolescents and their parents played an important role in out-of-wedlock childbearing. When adolescents and their parents endorsed the values and accompanying behaviors that stress responsibility, the adolescents' chances of experiencing an out-of-wedlock childbirth were reduced. This study found that girls who hold high educational expectations and have parents who are concerned about their activities are less likely to experience an out-of-wedlock pregnancy than are girls with similar backgrounds but who held low expectations and had parents that expressed little concern (Hanson et al., 1987).

Hanson et al. also found that teenagers who are well behaved in school, indicating a strong sense of self-discipline and responsibility, were less likely to have a child as a teenager. For whites, the likelihood of having a child was also reduced if teenagers attributed their successes to their own initiative and had parents who held high educational expectations for their child. Steady dating also had a strong influence on teenage childbearing. For both whites and blacks, going steady increased the chances of having a child outside of marriage more than any other variable (Hanson et al., 1987).

Fisher (1987) found that among those families with a high level of communication about sex between parent and child, parents and their late-adolescent offspring had sexual

attitudes that were highly correlated, whereas the correlation was not significant among the low-communication families. The correlation between the sexual attitudes of early adolescents and their parents was quite high and the correlation for middle adolescents and their parents was nonsignificant, the similarity between the sexual attitudes of late adolescents and their parents was a function of previous parent-child discussion of sex.

For the female subjects, a relationship was found between parent-child communication about sex and similarity in sexual attitudes of mothers and daughters, with a higher correlation between those variables in the families where the daughters reported a high level of sexual communication with their mothers. For males in the high-communication group, there was a similarity between their attitudes and those of both their mothers and their fathers (Fisher, 1987).

In the Fisher study the quality of family communication in general was not found to be related to parent-child communication about sex. It was found that the female students' reports of communication were better predictors of contraceptive use than the parents' reports about communication (Fisher, 1987).

It is also imperative to understand that when both parents are used in this type of research, the relationship is not simple or straightforward. Communication with mothers seems more closely related to similarity in sexual attitudes than

does communication with fathers, particularly for daughters. Mothers tend to be the primary sex educators of their children. Even the high-communication fathers were not discussing sexuality with their children as much as some of low-communication mothers. Communication between fathers and daughters typically does not occur at a level sufficient to warrant a relationship with the daughters' sexual attitudes (Fisher, 1987).

A college-age sample was used to study sexual attitudes of students and their parents (Yarber & Greer, 1986). Mothers' sexual attitudes showed strong relationships to offspring sexuality, especially with daughters' reported sexual behavior. Fathers' sexual attitudes had little relationship to the sexual attitudes and reported behavior of either the daughter or son. Further, none of the males' reported sexual behaviors were strongly related to parent sexual attitudes. Present socialization practices concerning the sex education of children, such as the daughter's sexuality receiving greater attention at home largely from mothers, and the son's sexuality being influenced more by culture, were supported by the work of Yarber & Greer (1986). Although the results showed a weak association between male student and parent sexuality, the majority of male students and their parents felt that the home sex education was good and the reported comfortableness of sex discussion between parent and child was high (Yarber & Greer, 1986).

Weinstein & Thornton (1989) used an interactional model to test the hypothesis that children who get along well with their parents are more likely to have attitudes and behavior that are consistent with their parents' values. The closeness of the mother-child relationship interacting with the mother's attitudes in the effects on her child's behavior and attitudes was the focus of the study. The researchers found that children with close relations with their mothers were more likely to have attitudes and behavior consistent with their mothers' own attitudes than children with distant relations. This relation persisted even when controls for other characteristics of the mother, reflective of the family's situation and known to be associated with adolescent sexual behavior and attitudes. This model provides evidence that the influence of mother-child relations and maternal attitudes on premarital sexual attitudes and behavior is interactive rather than additive.

Although children, on average, have more permissive attitudes than their parents, the attitudes of individual parents tend to be reflected in the attitudes of individual children. Another study found that children whose mothers have less restrictive attitudes have, on average less restrictive attitudes themselves. Further, the sexual attitudes of mothers are also reflected in the behavior of their children, so on average, mothers with more permissive sexual attitudes have children who are more sexually active.

The influence of maternal attitudes, however is stronger for children's attitudes than for their behavior (Thornton & Camburn, 1987).

Fox (1981) used parental questionnaires and divided maternal influence into direct and indirect influences. As direct influences she used the adolescent girls' reports of (a) the nature of the mother-child relationship, (b) indices of the amount of communication with the mother about sex and reproduction, and (c) maternal supervision. Fox found direct effects on the daughters' sexual behavior only for the quality of the mother-daughter relationship. Indirect effects were measured using the mother's reports of her own sexual behavior. Fox found that mothers who had lived with a sex partner outside of marriage during the life of the adolescent had daughters who were more likely to have engaged in sexual intercourse. Fox labeled this an indirect effect because it is not clear how this behavior influenced the adolescent. Presumably, it created an atmosphere of permissiveness or set a model for behavior (Fox, 1981).

Newcomer & Udry (1984) adapted Fox's model by using reports of mothers and their offspring, sons and daughters. This study found the sexual behavior of the mother as an adolescent to be related to the current sexual behavior of her child. This relationship was not mediated by the mother's current attitudes, control behavior or communication with the teenager about sex, whether these were measured by the child's

report or by the mother's report. For boys, insignificant amounts of influence by mother's early experience were mediated either via the son's developmental timing or via the mother's attitudes toward sexuality (Newcomer & Udry, 1984).

Development

Biological factors also are associated with early sexual activity. A sample of adolescent females from the U. S. National Survey of Young Women was analyzed to assess the correlates of age at first sexual intercourse. The correlates included respondent's age, race, religion and age at menarche. Multiple regression procedures were used to examine sets of variables sequentially. In the hierarchical regression model, the control variables (respondent's age, race, religion and age at menarche) predicted age at first sexual intercourse. The control variables accounted for a major portion of the variance in the model. Of the controls, chronological age and age at menarche were highly significant (Bingham et al., 1990).

Pubertal development did not predict adolescent sexual behavior in the Newcomer & Udry (1984) study. A less developed teenager whose mother had been sexually active was as likely to have engaged in sexual intercourse as was a well-developed teen whose mother had not been sexually active when she was her child's age (Newcomer & Udry, 1984).

Androgens (male hormones) are related to sexual interest and behavior in male and female adolescents (Udry et al., 1986). The sexual behavior of white males was strongly influenced by male hormones. A parallel study of white females found neither male nor female hormones to have had any effects on female coital behavior. However, female sexual motivations and noncoital sexual behavior were found to have a foundation in androgenic hormones. For both males and females, these hormone effects were independent of and did not work through pubertal development, and were not related to the fact that hormone levels increase with age (Udry et al., 1986).

Hormonal factors are thought to account in some part for the onset of sexual activity, either by effects occurring prenatally or activation effects that change hormonal levels at puberty. Hormonal activation may influence behavior directly by increasing arousal or indirectly by the social stimulus associated with physical changes (Brooks-Gunn & Furstenberg, 1989). The developing body acts as a stimulus for behavior change regardless of hormonal status (Brooks-Gunn & Furstenberg, 1989).

Demographics

Demographic variables associated with beginning sexual activity include age, single-parent household, gender, and race. Older adolescents were found to be more likely than

younger adolescents to be sexually active (Hofferth et al., 1987). Adolescent from single-parent homes were found to be more likely than those from two-parent families to be sexually active (Chilman, 1986). Single parenting may be related to less control and monitoring of adolescents' behavior. In general, male adolescents were found to be more likely than female adolescents and black adolescents more likely than white adolescents, to report being sexually active (Scott-Jones & White, 1990).

Several measures of family configuration, derived from the number, age, and sex of siblings and the number of parents, were found to be related to adolescent sexual attitudes and behavior in a sample of high school-aged teens (Miller et al., 1987). Zero-order correlations showed that sexual intercourse experience was less common among adolescents who lived with both parents and also among those who had younger siblings. Similarly, the zero-order correlations showed the least permissive attitudes were found to exist among adolescents who had more siblings, especially younger siblings and among those who lived with both parents. Controlling for adolescents age, sex, race, religion, church attendance and parental educational attainment, however, essentially eliminated the relationships between family configuration variables and sexual attitudes and behavior. Only parents' marital structure, reflecting whether adolescents lived with both original parents or not, continued to be weakly related to

adolescents' sexual attitudes and behavior (Miller et al., 1987).

Many studies have found that the family environment influences adolescent sexual activity. Premarital sex was less likely if both parents were present than if the teen was raised in a broken home (Coles, 1985). It is possible that the stability of the two-parent home provides a greater measure of effective social control over the adolescent (Forste & Heaton, 1988).

A modest effect of neighborhood quality was found. Those youth living in neighborhoods that their parents defined as excellent or very good places for children to grow up in were somewhat less likely to have engaged in sexual intercourse at an early age. The difference was significant only for males (Moore et al., 1986).

Teens living in urban centers were found to have more permissive attitudes toward sex than teens living in either the suburbs or rural areas (Coles & Stokes, 1985). Twenty-eight percent of the teens living in urban centers reported that it was okay for a girl going steady to engage in intercourse, whereas only 18% of the teens living in the suburbs agreed with this view (Coles & Stokes, 1985). Sexually active teenagers were more likely than their inexperienced peers to come from a large family or a one parent household and to have had views which more closely

resembled those of their peers than their parents (Flick, 1986).

Peers

A basic assumption is that during adolescence close friends become increasingly important as reference points in guiding various behaviors, including sexual behavior (Billy & Udry, 1985). The influence of the peer group may occur whether through the modeling of peer behavior, whereby the adolescent imitates the behavior of valued others, or through peer expression of normative standards for adolescent conduct such that the adolescent responds to the advice given by significant others. Peer advice regarding appropriate sexual behavior is presumably an outcome of their own sexual experiences or the lack of such experiences. Both mechanisms of peer influence may indirectly affect the adolescent's sexual behavior through the formation of the adolescent's own values and preferences for sexual contact (Billy & Udry, 1985).

A research project to assess which factors were important for friendship similarity with respect to sexual intercourse found evidence for racial differences. There was no similarity in sexual behavior between adolescents and their friends for black males or black females. Both white males and white females acquire friends who are similar to themselves in terms of sexual behavior. However, only white

females appear to be influenced by their friends' behavior (Billy & Udry, 1985). White females may be more influenced by their close female friends because female friendship is oriented toward "emotional-expressive" values while male-friendship is oriented toward "instrumental-group" oriented.

Peer influence works in a manner similar to the way parental influence works. When peers have low educational expectations and foresee few opportunities, the chances of teenage sexual activity, pregnancy and childbearing increase (Hanson et al., 1987).

Early dating and a steady relationship have been related to sexual activity. Initial sexual experiences tend to be with one partner. Adolescents may want to retain their steady relationship and may become sexually active for that reason. Having a girlfriend or boyfriend may provide opportunity for and pressure toward sexual activity (Scott-Jones & White, 1990).

Panel data from a junior high school was used to investigate adolescent friendship structure along the dimension of sexual behavior. White females and white males tend to name same-sex friends whose sexual intercourse behavior is like their own (Billy & Udry, 1985). Sexual intercourse is not a significant factor in accounting for adolescent friendship structure among blacks, males or females. For white females, similarity in adolescent-friend

sexual behavior appears to be due to both the influence and acquisition processes. For white males, only acquisition appears responsible for the observed homogeneity bias (Billy & Udry, 1985).

The existence of a strong positive relationship between peers' sexual behavior and the respondents' sexual behavior was studied using friends' self-reports of their sexual behavior in Billy et al., (1984). Given that no significant homogeneity bias was obtained for males after race and grade are controlled for, it can be concluded from this study that males neither influence one another's sexual behavior nor selected each other on the basis of having or not having intercourse. But for females, sexual intercourse was a strong and pervasive factor in adolescent friendship structure. It appears that intercourse is more salient for females than males in terms of being a criterion for friendship selection or behavior to be imitated or reinforced. The reason for this differential salience may be the different reputational consequences for males and females who have engaged in sexual intercourse (Billy et al., 1984).

Purpose of this Research

The purpose of this research is to develop a path model to explain adolescent sexual behavior. Using responses from each parent and the adolescent, the influence of peers and parents on sexual behavior will be investigated. Data has been

obtained from a "normal" population that includes teenagers who are sexually active as well as those who are not sexually active. Studying the interrelationships between peer attitudes and behavior, parenting practices, and parents' sexual attitudes may give insight to their impact on teenage sexual behaviors. Path analysis allows decomposing and interpreting linear relationships among a set of variables by assuming that a causal order among these variables can be known and determined by the theoretical base used.

CHAPTER 2. THE MODEL TO BE TESTED

Introduction

This chapter will first present the theoretical basis for the model to be tested. The last section of this chapter will present the model to be tested.

Social control theory

Hirschi has proposed a social control theory that people by nature are self-centered and intent on immediate gratification. Social controls such as bonds to conforming others and conventional beliefs, cause individuals to curb their selfishness and impulsiveness (Hirschi, 1969). Although Hirschi does not specifically deal with sexual behavior, other studies show that sexual behavior belongs to a class of adolescent norm violations whose occurrence is both intercorrelated and predicted by the same models (Jessor & Jessor, 1977).

Thornton & Camburn (1987) use parental attitudes, family structure, respondent's religion and church attendance, and other family variables as measures of social control predicting adolescent sexual behavior. Hogan and Kitagawa (1985) use similar family variables plus neighborhood characteristics implicitly measuring social control of adolescent coitus. Udry & Billy (1987) add peer effects to

the family characteristics supposed to control sexual behavior of younger adolescents.

Jessor & Jessor (1977) also studied non-conforming attitudes in the problem behavior theoretical perspective. This perspective suggests that there is a single "deviance trait" underlying adolescent sexual behavior and other activities like drinking, smoking, cheating and even some more severely deviant behaviors like robbery, assault, and drug use (Donovan & Jessor, 1985).

According to the perspective of problem behavior theory (Jessor & Jessor, 1977) covariation among deviant behaviors occurs because adolescents who hold non-conforming attitudes and values and attempt to claim adult statues are more likely to make the transitions into a variety of deviant activities, whether smoking, use of illicit drugs, drinking or delinquency than their more conforming peers. These behaviors are assumed to be functionally equivalent for the adolescent. Thus, the normal course of developmental change in adolescence often may involve what are defined as problem behaviors for adolescents.

Social learning theory

Social learning theory assumes neither a constant motivation for crime nor a constant socialization outcome with no inherent tendency toward either conformity or deviance (Elliot et al., 1985). Both types of behavior are viewed as outcomes of variations in the socialization process that

result in differential social reinforcements for conventional and deviant behavior.

The initiation and maintenance of both conforming and deviant behavior depends upon anticipated rewards and punishments for the behavior, and the rewards and punishments associated with alternative behaviors. These expectations are based upon earlier observed outcomes of this behavior and the outcomes of this behavior and the conditions associated with variation in outcomes. The decision to engage in either conforming or deviant behavior is thus viewed as the result of a differential social reinforcement (Akers, 1973).

With social learning theory, it is variation in the content of socialization that is important. It is variation in exposure to delinquent and conforming groups and variations in what is learned, internalized and socially reinforced that is critical. Learning theory postulates the presence of both conventional and deviant socializing agents, both conventional and deviant learning environments and bonding to both conventional and deviant groups. The same basic socialization processes operate in both learning contexts. The individual may become socially bonded to conforming or deviant groups and as a result may receive social reinforcements for either conventional or deviant groups and behavior (Elliot et al., 1985). There is no need to assume an inherent or natural predisposition to deviance because deviance is learned and

maintained in the same way that conforming behavior is learned and maintained.

The family is a central institution in the formation of sexual attitudes and behavior because it provides role models, a social and economic environment, and standards of sexual conduct. The socialization of attitudes concerning sexuality and the learning of appropriate norms of sexual behavior begin early in life and are influenced by the environment of the home and the values and behavior of parents. The specific dimensions of family life influencing the formation of attitudinal and behavioral patterns among adolescent children are still only dimly understood, despite the recognition of the importance of the family and awareness of simultaneous trends in family life and adolescent sexuality.

Theoretical and empirical investigations of adolescent sexuality and childbearing have identified a number of avenues through which parental behavior may influence the attitudes and behavior of children. The attitudes and beliefs of parents form the basic foundation for the values of their children. Although direct communication between parents and children about sexuality is limited in many families, parents may be sources of guidelines for children as they both indirectly and directly transmit their standards of conduct during the socialization process. Parental attitudes and values concerning premarital sexuality may also affect their own patterns of discipline and childrearing, which, in turn,

influence the behavior of their children. Parents with restrictive attitudes toward adolescent sexuality probably structure their own activities to provide more supervision of their adolescent children and allow their children less autonomy, which reduces adolescent sexual behavior.

The attitudes, expectations, and opinions that we perceive others to hold can be powerful sources of influence on our own attitudes and behavior. The nature and degree of these influences can vary over the life course. For the first several years of life, the members of one's immediate family are all-important. By the time one attends school, peers become a new source of influence, often seeming to compete with the family (Reed et al., 1986). These considerations provide a rationale for investigating the links between the adolescent and the importance of the peer culture relative to the influence of the parents.

Peer pressure-pressure to think or behave along certain peer-prescribed guidelines-is regarded as a prominent attribute of adolescence. Peer-group relations form an integral component of adolescent socialization and facilitate individual development of a sense of identity (Clasen & Brown, 1985). Peer pressure is a primary mechanism of transmitting group norms and maintaining loyalties among group members.

Biosocial theory

Adolescent sexual behavior provides an exceptional opportunity to explore the interplay of predispositions and social controls. The hormonal changes of puberty are commonly regarded as the foundation of libido (biologically based predisposition to sexual behavior). Since adolescents mature at different rates and at different ages, this leads to the presumption that some adolescents are more predisposed to sexual activity than others (Udry, 1988). A biosocial model gives insight into the relative contribution of motivational and control features on sexual behavior.

Sexual behavior is in a different category from some other controlled behaviors. Sexual behavior is an age-graded behavior that is both proscribed in early adolescence and permitted at later ages. Social pressures to engage in sexual behavior increase as one reaches middle adolescence. Sex is both an entitlement and an obligation of maturity.

Udry (1988) advocates a biosocial model that combines elements of social-science theories with a biological model of hormonal predispositions. For the social-control component of the theory, delinquent acts result when an individual's bond to society is weak or broken. The elements of the bond to conventional society are: emotional attachment to conventional institutions, commitment to conventional behavior, involvement with conventional institutions and conventional beliefs.

In this theory, sexual behavior is one of a class of norm violations that constitute a single factor of intercorrelated behaviors. The proposition that androgenic hormones, which increase at puberty for both sexes, increase the predisposition to engage in sexual behavior, is also incorporated into the biosocial model.

Model

Integrating the theoretical perspectives of social control, social learning and the biosocial provide the basis for the model. Parental attitudes and peer effects provide elements of social control in the model. The perspective of problem behavior supports the idea of non-conforming attitudes and values across a variety of deviant activities such as sexual behaviors. The socialization of attitudes concerning sexuality and the learning of appropriate norms of sexual behavior begin early in life and are influenced by the values and behavior of the parents. Peer-group relations form an integral component of adolescent socialization and facilitate individual development of a sense of identity (Clasen & Brown, 1985). The biosocial model integrates the social-control component with physical appearance and the hormonal changes of puberty and the impact of those changes on sexual behavior.

The focus in this study is to create a model to explain teenage sexual behavior. Using the theoretical perspectives discussed earlier two sets of constructs, one relating to

parents and a second to peers, are the basis for the model. The model to be tested is shown in Figure 1.

The dependent variable is teen's sexual behavior which is constructed of questions about engaging in heavy petting and engaging in intercourse. Sexual behavior is not defined as a dichotomous variable of engaging or not engaging in sexual intercourse but rather is viewed as a sequence of heterosexual behaviors. Couples usually embrace and kiss first, move on to fondling and petting next, and subsequently engage in more intimate behaviors that include sexual intercourse (McCabe & Collins, 1984). Including both intercourse and petting as part of the dependent variable may enable greater understanding of the sequence of behaviors in heterosexual adolescents.

Peer group influence can affect behaviors, as has been demonstrated in studies of delinquency, drug abuse and sexual behaviors (Yamaguchi & Kandell, 1987; Billy & Udry, 1985). Dating behavior of the teen's peers (arrow 1) and the teen's sexual attitudes (arrow 5) are hypothesized to have direct effects on the dating behavior of the teen. Direct effects on the teen's sexual behavior are also posited from teen's sexual-physical development (arrow 2), teen's antisocial behavior (arrow 3) and teen's appearance (arrow 4).

It is assumed in the social learning perspective that the teen will model peer's dating behaviors. Peer pressure is regarded as a prominent attribute of adolescence. The

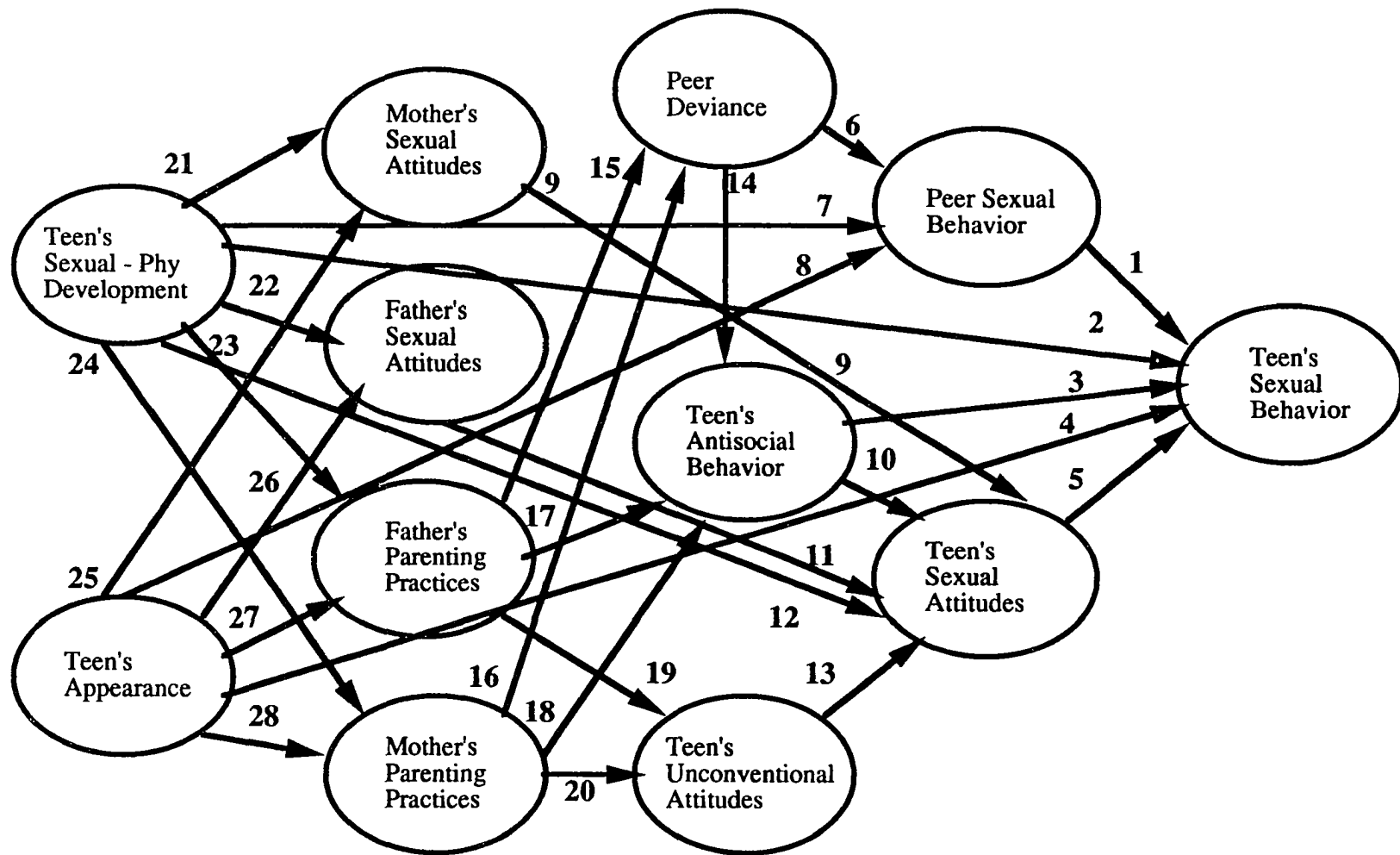


Figure 1. Model to be tested

deviance of the teen's peers are also hypothesized to have a direct effect (arrow 6) on the dating behavior of the teen's peers. Peer-group relations form an integral component of adolescent socialization and facilitate individual development of a sense of identity (Clasen & Brown, 1985). The influence of the peer group may occur through the modeling of peer behavior, whereby the adolescent imitates the behavior of valued others, or through peer expression of normative standards for adolescent conduct. Peer advice regarding appropriate sexual behavior is presumably an outcome of their own sexual experiences or the lack of such experiences. Both mechanisms of peer influence may indirectly affect the adolescent's sexual behavior through the formation of the adolescent's own values and preferences for sexual contact (Billy & Udry, 1985). Peer deviance is hypothesized to directly affect the teen's antisocial behavior (arrow 14).

The antisocial behaviors of the teen (arrow 10), and the unconventional attitudes of the teen (arrow 13) are posited to have direct effects on the teen's sexual attitudes. Social control theory indicates that the antisocial behavior of the teen and the teen's unconventional attitudes impact on the teen's sexual attitudes. According to the perspective of problem behavior theory, covariation among deviant behaviors occurs because adolescents who hold non-conforming attitudes and values are more likely to make the transitions into a variety of deviant activities.

The socialization of the teen's attitudes concerning sexuality and the learning of appropriate norms of sexual behavior are influenced by the values and behavior of the parents (Yarber & Greer, 1986). Sexual permissiveness attitudes of the mother (arrow 9) and the father (arrow 11) are posited to have direct effects on the teen's sexual attitudes.

The attitudes and beliefs of parents form the basic foundation for the values of their children (Reed, 1986). The Parenting Practices Attitudes for both the mother and the father are measures of involvement and control of the teen. Positive affect between parent and child increase the probability that family values will be transmitted successfully (Weinstein & Thornton, 1989). This model hypothesizes that Parenting Practices effects on teen sexual behavior are mediated through the teen's unconventional attitudes (arrows 19 & 20) with direct effects on antisocial behavior of the teen (arrows 17 & 18).

Parental attitudes and values concerning premarital sexuality may also affect their own patterns of discipline and childrearing. The direct effect of Parenting Practices on unconventional attitudes is shown with arrow 19 for the father and arrow 20 for the mother. Although direct communication between parents and children is limited in many families, parents may be sources of guidelines for children as they both indirectly and directly transmit their standards of conduct

during the socialization process (Miller & Olson, 1988). Both the father's and mother's parenting practices are hypothesized to have a direct effect of peer deviance (arrow 15 and arrow 16).

Visually apparent changes in secondary sexual characteristics are signals to the individual and to others of the adolescent's sexual potential. The teen's appearance is hypothesized to affect the mother's sexual attitudes (arrow 25), father's sexual attitudes (arrow 26), Father's Parenting Practices (arrow 27) and Mother's Parenting Practices (arrow 28). Appearance is posited to have direct effect on peer dating behavior (arrow 8) and teen's sexual behavior (arrow 4).

There is substantial evidence that pubertal development is associated with early initiation of sexual activity (Udry, 1988; Zabin et al., 1986; Bingham et al., 1990). This model postulates that the teen's sexual-physical development will impact on the mother's sexual attitudes (arrow 21), father's sexual attitudes (arrow 22), Father's Parenting Practices (arrow 23), and the Mother's Parenting Practices (arrow 24). Teen's sexual-physical development is posited to have direct effects on peer dating behavior (arrow 7) and the teen's sexual attitudes (arrow 12). It is hypothesized that the teen's sexual-physical development will have a direct effect on the teen's sexual attitudes (arrow 12).

CHAPTER 3. METHODS AND PROCEDURES

Sample

Data for the present study were collected as part of a broader project concerned with the life course trajectories of parents and their children. A sample of 451 two-parent families was recruited through the cohort of all 7th grade students, male and female, in eight counties in North Central Iowa who were enrolled in public or private schools during winter and spring, 1989. An additional criterion for inclusion in the study was the presence of a sibling within four years of age of the 7th grader. Slightly less than half of the cohort of 7th graders had families who met these criteria. Seventy-seven percent of the eligible families agreed to participate in the study.

The families in the study lived on farms (about one-third) or in small towns. All of the families were white, and annual income ranged from zero to \$135,00 with a mean of \$29,642. Fathers' education ranged from 8 to 20 years with a mean of 13.5 years of education, while for mothers the range was from 8 to 18 years with a mean of 13.4 years. The fathers ranged in age from 31 to 68 with a median of 39.7 years; mothers' ages ranged from 29 to 53 with a median of 37.7 years. Since families of less than four were excluded from the sampling frame, the families were larger on average than what would be expected from a general population survey. Families ranged

from 4 to 13 members with an average of 4.9 members. The 231 older siblings, with 116 girls and 115 boys, are the subjects for this research project.

Procedures

Each family was visited twice in the family's own home. During the first visit, each of the four family members completed a set of questionnaires focusing upon family processes, individual family member characteristics, and economic circumstances. On average, it took approximately two hours to complete the first visit. Between the first and second visits, family members completed questionnaires left with them by the first interviewer. These questionnaires dealt with information concerning the parents' beliefs about parenting, and plans for the future. Each family member was instructed to place his/her completed questionnaire in an envelope, seal it and give it to the interviewer at the time of the second visit.

During the second visit, the family was videotaped while engaging in several different structured interaction tasks. The visit began by having each individual complete a short questionnaire designed to identify issues of concern or disagreements within the family (e.g., chores, recreation, money, etc.) The family members were then gathered around a table and given a set of cards to read and discuss. All four family members were asked to discuss among themselves each of

the items listed on the cards and to continue talking until the interviewer returned. The second task, 15 minutes in length, also involved all four family members. For this task, the family was asked to discuss and try to resolve the issues and disagreements which they had cited in the questionnaires they had completed earlier in the visit. The third task involved only the two youth and was 15 minutes in length. The youth were given a set of cards listing questions related to the way they got along, the manner in which their parents treated them, their friends and their future plans. The fourth task involved only the married couple.

The family's interaction around these four tasks was videotaped. Interviewers explained each task and then left the room while the family members discussed issues raised by the task cards. During the time family members were not involved in a videotaped interaction task, each family member completed an additional questionnaire asking about significant life events, attitudes toward sexuality and personal characteristics. The second visit lasted approximately two hours.

The videotapes were coded by project observers using the Iowa Family Interaction Rating Scales (Melby et al., 1990). These scales focus upon the quality of behavior exchanges between family members. The project observers were staff members who had received several weeks of training on rating family interactions and specialized in coding one of the four

interaction tasks. For purposes of assessing interobserver reliability, 12% of the tasks were randomly selected to be observed and rated by a second observer.

Measures

Teen's Sexual Behavior

Adolescents responded to two questions used to measure sexual behavior. The questions were as follows:

Have you ever engaged in heavy petting?

Have you ever had sexual intercourse?

Responses were 1=yes or 2=no.

The responses to the two questions were standardized and added together to create the dependent variable. Coefficient alpha for this measure was .99.

Peer Sexual Behavior

The dating behavior of the teen's peers was measured by a three item scale composed of the following questions:

How many of your close friends have engaged in heavy petting?

How many of your close friends have engaged in sexual intercourse?

How many of your close friends date?

Response choices for these three items were in a five point range from none of them to all of them.

The alpha for the Peer Dating Behavior Scale was .98.

Teen's sexual attitudes

Reiss's Sexual Permissiveness Scale of five items was used to measure teen's sexual attitudes (Reiss, 1964). Alpha was .98 for this scale. A complete listing of the questions measuring the teen's sexual attitudes are available in the Appendix.

Teen's appearance

A subjective assessment of the teen's physical appearance was given independently by each of the two in-home interviewers and three staff members who coded the three family tasks in which the adolescent participated. The five independent observational ratings were added together to create the Teen Appearance Scale. Alpha for the appearance scale is .66.

Teen's sexual-physical development

Separate measures of pubertal development were constructed for the teen males and teen females. The measure for males uses questions about height gain, body hair, acne, voice change and facial hair. The female teen measure is constructed from the responses to questions about height gain,

body hair, acne, breast development and menarche. For both the males and females, each respondent's answers to the questions about physical-sexual development were added together and an individual mean score for development was derived. The mean is a measure of the central tendency for continuous variables so using the mean for each response gives a central tendency to construct a scale of sexual-physical development. The alpha for the females is .75 and the alpha for the males is .86. The specific questions used in this construct are listed in the Appendix.

Deviance of teen's peers

Nine items were used to measure the deviance of teen's peers. Information about the peers participation in status offenses, property offenses, stealing and use of physical force against another were gathered. Alpha for this group of questions was .72. A complete listing of the questions is contained in the Appendix.

Antisocial behavior of teen

The Revised Behavior Problem Checklist (Quay & Peterson, 1983) was used to measure the antisocial behavior of the teen. Behaviors of the teen when someone hits first, when someone makes an unpopular rule, when the teen is mad, when people yell at the teen, if someone annoys the teen, when someone is bossy and willingness to use physical violence were assessed.

Alpha for the seven items was .78. The specific questions used for this scale are listed in the Appendix.

Teen's unconventional attitudes

The adolescent self-report is used for the six items in the unconventional attitudes scale. Questions dealt with attitudes about drinking alcohol, trying to hurt someone using physical force, using marijuana or other illegal drugs, joyriding in a car, skipping school and shoplifting. A complete listing of the questions used in this measure is contained in the Appendix. Alpha was .74.

Parent's sexual attitudes

Reiss's Sexual Permissiveness Scale was used to measure the parent's sexual attitudes. The mother and father self-reported their attitudes on this scale which was also used by the teens. Alpha for the mothers was .82 with the alpha for the fathers .87. The range of responses for mothers was from 5 to 23 with a mean of 12.15 and a standard deviation of 3.5. For the fathers, the range of responses to these questions was from 5 to 22 with a mean of 13.65 and a standard deviation of 3.9. The questions used in this measure are listed in the Appendix.

Parenting practices

Supportive parents show concern about their child's feelings, take an interest in his/her daily activities, manifest love and acceptance, encourage appropriate behavior, help with problems and reinforce accomplishments. Measures based upon child report and observational data were used as indicators of this construct.

An observational measure of supportive parenting was formed by summing the Warmth/Support, Quality Time, and Positive Reinforcement Scales. The Warmth/Support Scale focuses upon the extent to which the parent shows caring and concern for the child. The generalizability coefficient for this scale was .79 for fathers and .70 for mothers. The Quality Time Scale is concerned with the quality of parental involvement in the child's life. It rates the extent to which the parent takes advantage of opportunities for conversation, companionship, and the like. The generalizability coefficient for this scale was .60 for fathers and .65 for mothers. Finally, the Positive Reinforcement Scale rates the degree to which the parent delivers praise, approval, smiles and other rewards contingent upon appropriate behavior. Coefficient alpha was .70 and .54 for fathers and mothers, respectively.

The teenagers reported on parenting practices for the mother and father separately. The nine items included in the scale assess parent-teen interaction about problem areas of the teen's life, talking about things that bother the teen,

the parent asking the teen about family decisions that concern the teen, parental approval shown to the teen and the teen feeling trusted and cared about by the parents.

The observational scales and the parenting practices were combined to create a Parenting Practices Scale. The alpha for the twelve item scale was .76 for fathers and .73 for mothers.

CHAPTER 4. RESULTS

Frequencies were obtained on all variables to determine the basic distributional characteristics. The dependent variable of sexual behavior showed for the girls in the sample, 43% had engaged in heavy petting and 20% had had sexual intercourse. In the teen male sample, 33% had engaged in heavy petting while 15% had engaged in sexual intercourse.

The correlations for all measures are shown by gender in Table 1. The correlations above the diagonal are for girls and the correlations below the diagonal are for boys.

For girls, the strongest associations are between the girl's self-reported dating behavior and peer's dating behavior (.64) and the girl's self-reported dating behavior and her attitudes about sexual permissiveness (.60). The magnitude of the association between her attitudes about sexual permissiveness and the dating behavior of peers is almost as great (.60). The correlations between deviance of peers and the teen's unconventional attitudes (.53), the teen girl's antisocial behaviors (.42), and the female's attitudes about sexual permissiveness (.38) were strong.

As expected, there is a strong correlation between mother's attitudes about sexual permissiveness and father's attitudes about sexual permissiveness (.54). Both mother and father's attitudes about sexual permissiveness are associated with the teen's attitudes about sexual permissiveness,

although the father's (.28) is of greater magnitude than the mother's (.18). There are significant negative correlations for both the mother's and father's parenting practices with dating behavior of the teen and the antisocial behavior of the teen. In all these associations the magnitude of the correlation is greater for the father than for the mother. There is a moderate (.18) association between the parenting practices of the mother and the teen's physical-sexual development.

For the boys, the correlations are of lesser magnitude, with a range of .49 to .16. Self-reported dating behavior is associated with peer dating behavior (.31), self-reported attitudes toward sexual permissiveness (.24), unconventional attitudes (.16), and deviance of friends (.20). The teen's sexual attitudes show a range of association ranging from .17 to .48 with unconventional attitudes, antisocial attitudes, peer deviance, physical-sexual development, appearance, mother and father's attitudes toward sexual permissiveness. There is a negative correlation (-.22) between the teen's sexual attitudes and the father's parenting practices. The father's parenting practices are negatively associated with unconventional attitudes (-.21), antisocial attitudes (-.38) and the deviance of peers (-.35). The mother's parenting practices have a range of association from -.18 with teen's self-reported sexual behavior to -.30 with deviance of peers and -.32 with antisocial behaviors.

There are differences in the correlations by gender. Overall, for the females the associations are of greater magnitude, with the father's sexual attitudes and parenting practices having larger association with the female teen's behavior and attitudes. In the male teen matrix, the correlations are less strong.

There are similarities in the two correlation matrices. The father's parenting practices have a moderate negative association with unconventional, peer deviance and antisocial attitudes for both the male and female teen. Mother parenting practices and father parenting practices show strong association for both genders, with .69 for the girls and .74 for the boys.

The multivariate relationships between the variables were analyzed using path analysis. Path analysis is a method of decomposing and interpreting linear relationships among a set of variables by assuming that a causal order among these variables is known and the relationships among these variables are causally closed. The effect coefficient measures the accompanying changes in one variable, given a unit change in another variable, while controlling for extraneous causes.

The path model for girls is shown in Figure 2. All path coefficients are significant at the .05 level. The variables were entered into the equation one at a time and then eliminated one by one. Variables were eliminated when the probability of F is 0.1 or greater.

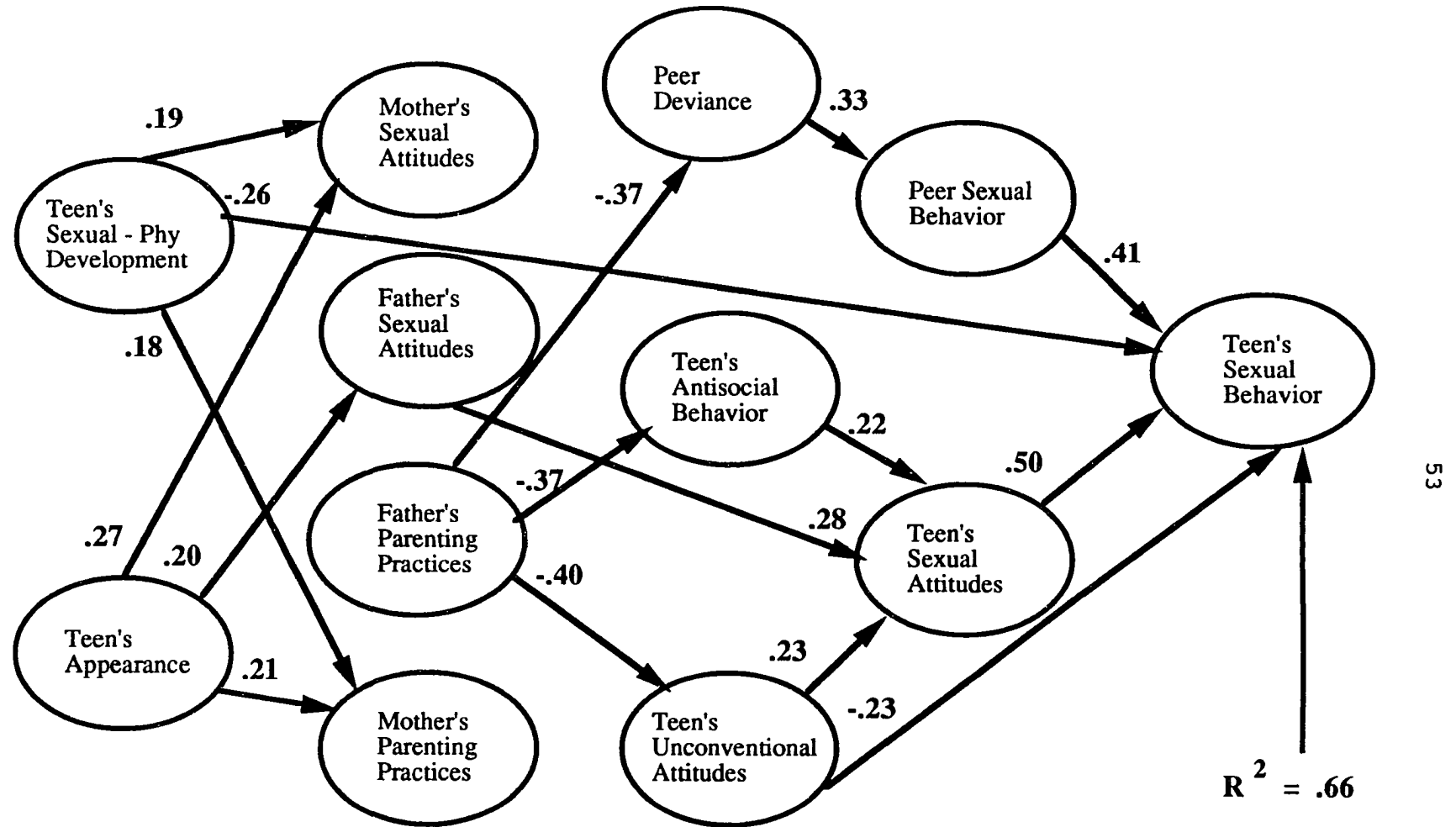


Figure 2. Path model for girls

There is an effect on the female teen's sexual behavior from their own sexual attitudes. Peer's sexual behaviors has an effect on the female teen's sexual behavior. Peer deviance has an effect on peer sexual behavior. Effects on teen's sexual behavior also come from puberty development and the teen's unconventional attitudes. For the teen female, unconventional attitudes and antisocial behavior also have effects on her sexual attitudes. Other effects on her sexual attitudes come from the father's parenting practices and the father's attitudes of sexual permissiveness.

The girl's appearance and her physical-sexual development impact on the mother's sexual attitudes. Effects from the father's parenting practices on peer deviance, unconventional attitudes and antisocial behaviors are shown in the model. The teen's appearance has an impact on the mother's parenting practices, the father's parenting practices and the father's sexual attitudes.

Other effects on the female's sexual behavior are shown by the father's sexual attitudes through the female teen's sexual attitudes and then to teen's sexual behavior. The father's parenting practices have effects on the female teen's sexual behavior through unconventional attitudes and antisocial behavior. The father's parenting practices have an effect on the teen's sexual behavior through peer deviance. The teen female's appearance has an effect on the mother's sexual attitudes and the mother's parenting practices.

Figure 3 shows the path model for boys. All path coefficients are significant at the .05 level. Peer sexual behavior has an effect on the male teen's sexual behavior. Another effect on male sexual behavior comes from the deviance of peers. Physical-sexual development impacts on peer sexual behavior. Deviance of peers has an effect on peer sexual behavior. There was an effect on teen's sexual attitudes from unconventional attitudes. Another effect on teen's sexual attitudes comes from the mother's sex attitudes. The father's parenting practices have effects on the deviance of peers, unconventional attitudes, and the antisocial behavior.

Effects on the male teen's sexual behavior come from physical-sexual development and deviance of peers to peer sexual behavior. Other effects on the teen's sexual behavior come from the father's parenting practices through the deviance of peers and then impact the male teen's sexual behavior.

There are similarities in the path models for the male teen and the female teen. For both genders, peer sexual behavior had strong coefficients (.41 for girls and .57 for boys). The father's parenting practices had an impact on peer deviance, unconventional attitudes and antisocial behaviors for both males and females.

Some differences are apparent in the path models for the boy and girl teenagers. For the girl teen, her own sexual attitudes impact on her sexual behavior. Unconventional

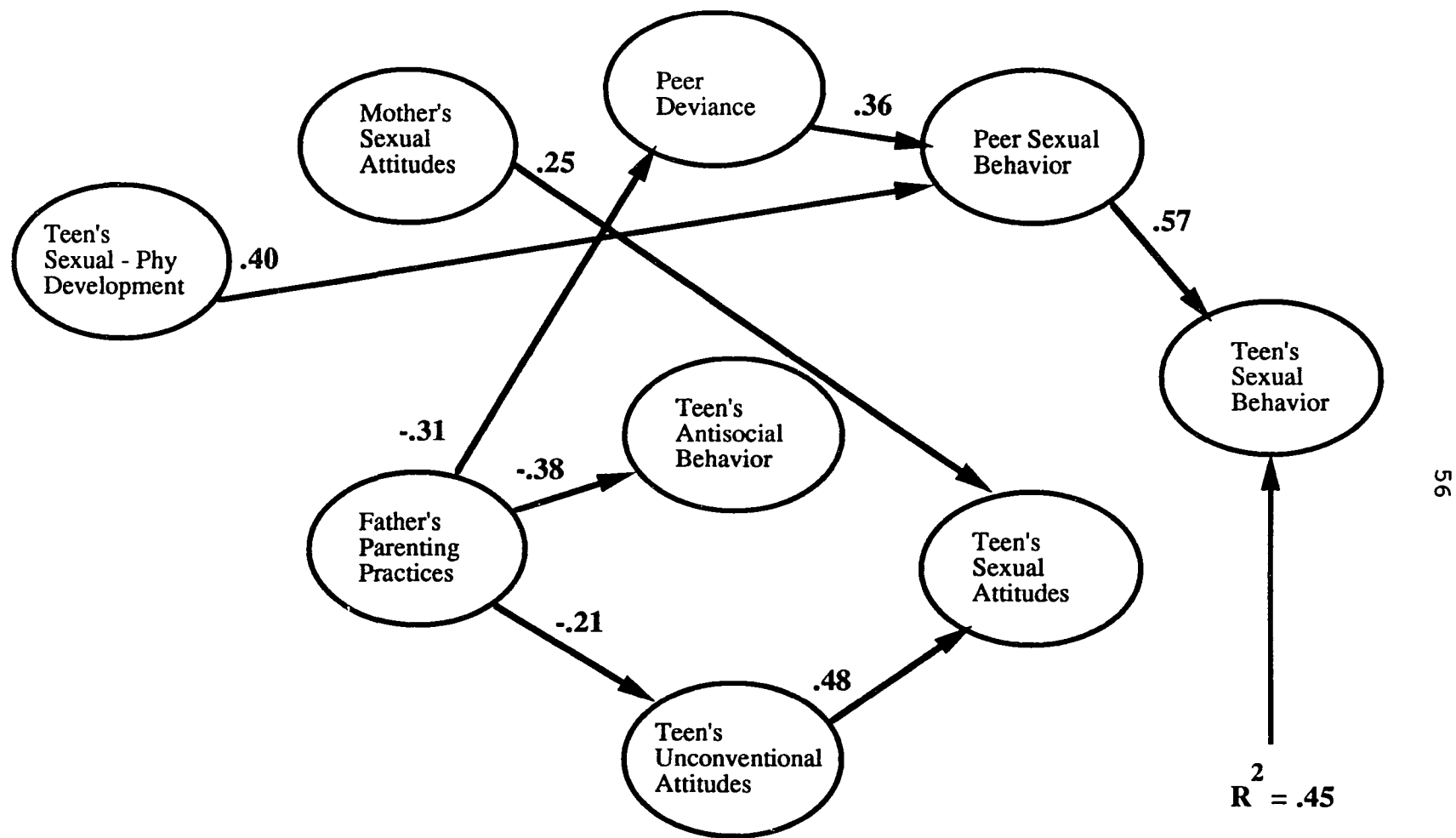


Figure 3. Path model for boys

attitudes held by the boy have an impact on his sexual attitudes but no effect on his sexual behavior. The father's sexual attitudes impact on the girl's sexual attitudes whereas the mother's sexual attitudes effect the boy's sexual attitudes.

CHAPTER 5. CONCLUSIONS

This chapter will discuss the conclusions of this study with implications for theory integration. Limitations of this research and recommendations for future study are also included in this chapter.

Conclusions

The present study confirms the importance of peer's sexual behavior on male and female teens' sexual behavior. As predicted in the proposed model, peer sexual behavior has a direct effect on the teen's sexual behavior. Prior research had established that peer group influence can affect behaviors, such as delinquency, drug abuse, and sexual behavior (Yamaguchi & Kandell, 1987; Elliott et al., 1985; Udry & Billy, 1987).

The larger correlation between teen sexual behavior and peer sexual behavior for boys may be a result of different reputational consequences for males and females who have sex. A double standard may persist such that sexual intercourse for females represents more of a departure from sex-appropriate norms. Males may have more positive values and orientations toward sex, they may feel that having sex is expected of them and may therefore treat it more casually. In contrast, females may more readily perceive negative consequences of having sex and therefore attribute more salience to the act.

The results confirm the model with a direct effect of peers' deviance on peer's sexual behaviors which have a direct effect on the teen's sexual behaviors. Insight into the findings comes from problem behavior theory since an influence is shown between peer deviance, peer sexual behavior and the adolescent's sexual behavior. Adolescents who hold non-conforming attitudes and values are more likely to make the transitions into a variety of deviant behaviors (Jessor & Jessor, 1977). Using actual responses of siblings and peers, Rodgers & Rowe (1990) found that both best friends' and siblings sexual and other mildly deviant behaviors predicted these behaviors among young adolescents.

The present study relied on the teen's perceptions of peers' sexual behaviors rather than self-report of the peer. There is controversy about the importance of self-report as opposed to perceived behavior as reported by peers. Newcomer, Gilbert, and Udry (1980) have argued that sexual behavior and attitudes are more closely related to what adolescents perceive as the values and behavior of their peers rather than what peers really do.

These findings confirm the direct effect of the parents' sexual attitudes on the teen's sexual attitudes. The model tested posited direct effects on the teen's sexual attitudes from each parent. The avenue of transmission appears not to come from both parents, as hypothesized, but from the opposite gender parent. In other words, the mother's sexual attitudes

have a direct effect on the son's sexual attitudes while the father's sexual attitudes have a direct effect on the daughter's sexual attitudes.

Earlier studies have produced conflicting results. An earlier study found that the father's approval of the child's sexual activity accounted for the greatest proportion of the variance in whether the child had experienced intercourse (Baker et al., 1988). Another analysis showed positive correlations between mother's sexual attitudes and the attitudes of the daughter (Yarber & Greer, 1986). Several studies have documented that communication between fathers and daughters typically does not occur at a level sufficient to warrant a relationship with the daughters' sexual attitudes (Fisher, 1987; Yarber & Greer, 1986). Many samples do not include fathers or use only mother-daughter pairs. One study showed that the mother's sexual attitudes were positively correlated with those of their sons but that the correlations between fathers' and sons' sexual attitudes were negative (Yarber & Greer, 1986).

The cross gender transmission of sexual attitudes from parent to child may be twofold. Hirschi (1969) suggested that the parent-child bond itself is a constraint mechanism. That is, children are constrained through intangible affective bonds with parents to conform to parental expectations. The transmission of the sexual attitudes may be affected by the affective bonds that the child has with each parent. There

may be competition with the same gender parent who is communicating gender norms.

In addition, the opposite gender parent provided a role model for future relationships and communicated standards of sexual contact. The amount, quality and content of communication by each of the parent's may influence the teen's sexual activity. The communication of gender specific norms by the same gender parent might block communication about sexual attitudes. Parental attitudes and values concerning premarital sexuality may also affect their own patterns of discipline and childrearing, which, in turn, influence the behavior of their children. Parents with restrictive attitudes toward adolescent sexuality probably structure their own activities to provide more supervision of their adolescent children and allow their children less autonomy, which reduced adolescent sexual behavior.

Contrary to the proposed model, only the father's parenting practices are significant. There are negative path coefficients for father's parenting practices with peer deviance, the teen's antisocial behavior and unconventional attitudes for both genders. The negative correlations occur because of the coding of the measures used. As the teen exhibits less antisocial behavior the father is able to be more supportive in parenting practices. The negative direct effect of the father's parenting practices on peer deviance can be explained by the recognition that as a teen has more

deviant friends the father may become less supportive in his parenting practices. Both of these findings provides support for Patterson's (1985) hypotheses concerning relationships between ineffective parenting, aggressiveness and involvement with deviant peers.

It is difficult to understand the direct negative path between unconventional attitudes and the father's parenting practices. The results for the unconventional attitudes and parenting practices may be related to the responses on these items.

An alternative explanation might be that the father's parenting practices are a result, and not a cause of the adolescent's aggressiveness and unconventional attitudes. An earlier study had found that rejected children tend to be coercive and noncompliant (Simons & Robertson, 1989). This study underscores the significance of nurturant, supportive parenting. Parental rejection, both directly and indirectly, increased the probability of a youth's involvement in a deviant peer group (Simons & Robertson, 1989). Simons & Robertson (1989) concluded that the predominant causal flow was from parental rejection to delinquent behavior.

The more the adolescent perceives parents as providers of support and nurturance, the less he or she regards peers as more important than parents and the less he/she engages in deviant behavior. It is reasonable to propose that supportive parental behavior leads to internalization of parental norms

and to the use of these norms as reference points in evaluating the self and in making decisions about whether or not to engage in deviant behavior (Barnes et al., 1987).

Contrary to the proposed model, the mother's parenting practices are not significant for either gender. There may be several reasons for this. In a traditional family the gender role of the mother involves the care and discipline of the children. For teenagers, the mother would provide the rules and the punishment when rules were broken. Social learning sensitizes one to the fact that parenting takes place within the context of a parent-child relationship. Just as the parent brings certain skills, perceptions and values to this relationship, so the adolescent's behavior toward the parent is a function of his/her ideas about proper parenting.

Gender differences are apparent in the findings. There are gender differences in the impact of attitudes, peers and parent on teenage sexual behavior. Some of the differences in the models may result from the social controls and normative environments that girls encounter. These environments are highly differentiated for girls, while the environments that boys encounter are more uniform, producing microeffects for females but not for males.

For females, path analysis supported the proposed model that the physical-sexual development and appearance impact on the mother's sexual attitudes and parenting practices. The negative correlation results from the coding of the two

variables. Less physically developed girls are less likely to engage in sexual behavior.

Age at menarche is closely associated with other variables such as changes in physical appearance, which define an individual as an appropriate partner in sexual behaviors such as dating, being a boyfriend or girlfriend and/or sexual intercourse (Bingham et al., 1990). Hence, although age at menarche exerts its influence through related social variables, it is basically a biological variable associated with biological growth and physiological maturation that then takes on a variety of social meanings through its association with chronological age. As a result of this interplay of age at menarche and the age at which an individual assumes the appearance of an appropriate sexual partner, adolescent females who have an earlier age at menarche are also viewed as appropriate sexual partners at a younger age.

As the teenage female became more physically and sexually mature with a changing appearance, the mother may have changed her sexual attitudes and parenting practices. It might be that the mother felt the daughter required more restrictive practices to prevent sexual activity. The daughter's changing appearance might also force the mother to confront her own aging process and become aware of the daughter as a source of competition for the father's affection and attention.

For the fathers, however, appearance impacts only on his parenting practices. It is not until after puberty, and the

changes in physical appearance that accompany it that adolescents, particularly females, are perceived as appropriate sexual partners. The cultural norm that prohibits incest may be why the female teen's physical-sexual development had no significance with the father's sexual attitudes or parenting practices. As the father perceived the daughter becoming sexually mature in appearance, the recognition that the daughter is not an appropriate sexual partner created changes in the father's sexual attitudes.

The female teen's physical-sexual development has an impact on the female teen's sexual behavior which is not found for the male teen. It may be, because of their older appearance, early-maturing adolescent females are more likely to associate with an older peer group and behave in a manner appropriate for the older reference group (Bingham et al., 1990).

The teenage male's physical-sexual development impacts on peer sexual behavior. It may be that being attractive and physically-sexually mature is important for males to be viewed as an appropriate sexual partner by those in the peer group. Sexual activity for the male may be more a function of opportunities for sex and availability of partners. For the teen female, sexual activity may depend more on values and attitudes toward sexuality.

Theoretical implications

There are theoretical implications for social control theory, social learning theory and biosocial theory which will be discussed in this section.

Social control theory A critical variable for control theory is the strength of social controls that serve to regulate behavior and thus restrain the natural impulse to delinquency. These controls involve rewards and punishments that are expected to result from one's behavior; they may be either personal (internal) or social (external) which are invoked by the self or others (Elliott et al., 1985). These rewards and punishments constitute the real or potential costs of delinquency and it is the variability in these anticipated costs that determines one's vulnerability for delinquency.

Hirschi (1969) suggested that the parent-child bond is a constraint mechanism. The model supports the constraint for the teen's sexual attitudes from the opposite gender parent.

The focus of control theories has thus been upon the socialization process, upon differences in the extent to which the norms have been internalized, providing weak or strong internal controls, and upon the degree of integration or bonding to conventional groups and activities that determines the strength of external controls on behavior. it is not the motivation for delinquency, but the strength of the internal and external controls that is the focus.

Control theorists focus upon adolescent bonds to the family, school, community organizations, and future work roles as the major external sources of social control influencing youths' vulnerability to delinquency. Personal attitudes, values, and beliefs are the primary sources of internal control (Elliott et al., 1985).

In the male model, the mother's sexual attitudes impact on the teen's sexual attitudes to form an internal control. The father's parenting practices have a direct effect on peer deviance, antisocial behavior and unconventional attitudes of the male teen. These attitudes would provide internal controls for the male.

Internal controls on sexual behavior for the female is shown by the large path coefficient between her own sexual attitudes and her sexual behavior. For the female teen, her own sexual attitudes form an internal control with a direct effect on her sexual behavior. The sexual attitudes have direct effects from her antisocial behavior and unconventional attitudes which are further evidence of internal controls.

External control comes from the parents. Parental control may be inferred from the direct effects of opposite gender parent on the teen's sexual attitudes. In other words, for the boy the mother's sexual attitudes impact on his sexual attitudes while for the girl, the father's sexual attitudes impact on her sexual attitudes. Internalization of the

father's sexual attitudes integrated with her own sexual attitudes would be further evidence of external controls.

Another external control comes from the peer group. For both genders, peer sexual behavior provides an external control on the teen's sexual behavior. This model provides support for social control theory in relation to teenage sexual behavior. External controls are shown through the father's parenting practices and the peer group sexual behavior. The findings also support internal control by the teen's own sexual attitudes.

Social learning theory Social learning theory assumes neither a constant motivation for crime nor a constant socialization outcome. There is thus no inherent tendency toward either conformity or deviance from this perspective. Both types of behavior are viewed as outcomes of variations in the socialization process that result in differential social reinforcements for conventional and deviant behavior. The initiation and maintenance of both conforming and deviant behavior depends upon anticipated rewards and punishments for the behavior and the rewards and punishments associated with alternative behaviors. The decision to engage in either conforming or deviant behavior is thus viewed as the result of a differential social reinforcement, the perception that the balance of rewards and punishments for a given act is more favorable than those for other alternative acts in that situation or context (Akers, 1977). The primary deviant

learning context is the adolescent peer group. The greatest variation in normative orientations, delinquent behavior patterns and social reinforcements for delinquent behavior are found in this social context.

As expected, results of the path analysis show peer deviance to be a predictor of peer sexual behavior, with peer sexual behavior, in turn serving as a predictor of the teen's sexual behavior. This is in keeping with the contention of social learning theory that peer group relations form an integral component of adolescent socialization (Clasen & Brown, 1985).

Peer pressure is a primary mechanism of transmitting group norms. The peer group is one of the socializing agents for the teen by providing attitudes, values and behaviors (Elliott et al., 1985). The teen had learned through observation of group interaction which behaviors are encouraged and rewarded by the peer group.

Those individuals and groups that control the major sources of rewards and punishments during childhood and adolescence (the family, the school and the peer group) are postulated to have the greatest influence upon adolescent behavior (Akers, 1977). For the most part, neither the family nor the school is seen as a deviant learning context as both are quite conventional in their normative orientations and types of behavior modeled and reinforced. Contrary to the

proposed model, the father's parenting practices have a negative correlation with the peer deviance.

Biosocial theory

The biosocial model advocated by Udry is supported by this study. The elements of social-science theories and the biological model of hormonal predispositions form the basis for the model. For the social-control component of the theory, delinquent acts result when an individual's bond to society is weak or broken. The elements of the bond to conventional society are : emotional attachment to conventional institutions, commitment to conventional behavior, involvement with conventional institutions and conventional beliefs. In this theory, sexual behavior is one of a class of norm violations that constitute a single factor of intercorrelated behaviors. The proposition that androgenic hormones, which increase at puberty for both sexes, increase the predisposition to engage in sexual behavior, is also incorporated into the biosocial model.

For the girl, her unconventional attitudes and antisocial behavior impact on her sexual attitudes which have direct effects on her sexual behaviors. If those attitudes and behaviors are unconventional then her bond to society and its social norms is weakened.. Her sexual behavior would be one factor correlated with antisocial behaviors and unconventional attitudes to form a group of norm violations. As the female

teen becomes more sexually developed, there is greater likelihood she will engage in sexual behavior. The biological component of the biosocial model is supported for females but not for males.

There are differences for the male teen. His unconventional attitudes, which might represent norm violations, have a direct effect on his sexual attitudes. The sexual-physical development of the male teen has a direct effect on peer sexual behavior which in turn has a direct effect on the teen's sexual behavior. If peer sexual behavior is deviant the societal norms would be broken. Conventional norms might be shown in this model by the mother's sexual attitudes with a direct effect on the male teen's sexual attitudes. Another conventional norm could be the impact of the father's parenting practices on peer deviance, antisocial behavior and unconventional attitudes for both genders.

The path model for both males and females adds support to biosocial theory. The components of social control and the biological factors both have significant effects on teen's sexual behavior.

Limitations of the Present Study

Our measures are indicators of current adolescent perceptions of parents. It may be that these perceptions do not reflect past behavior of parents, either because of recall problems or because adolescent behavior has influenced

parental socialization behaviors. This latter question is an important one that can only be answered with longitudinal research. Longitudinal designs are critically important in attempting to understand the time sequence or causal links in the development of adolescent behaviors. This applies to the area of peer influences on sexual behavior also.

It is important to realize that adolescent self-report measures of sexual behaviors and attitudes may be influenced by the adolescent's level of self-awareness and his/her willingness to respond to such questions in a socially desirable manner. Questions dealing with sexual activity have the possibility of arousing some level of discomfort in individuals. Consequently, the results of this study may be biased by the adolescent's emotional reaction to the topics surveyed.

Using a sample from a largely rural area limits the ability to generalize the results of this study. The respondents were fairly homogeneous on such variables as race, age, and place of residence. A sample more representative of the general population would lend the results more likely to generalizations to the larger population.

Using peer self-report on sexual behaviors and deviance might provide better measures than using the teen's report of friends' sexual behavior. Gender differences might be more apparent when using peer self-report of sexual behaviors and deviance. This study grouped all older siblings together in

one group. Separating the older siblings into groups by age and gender might give more insight into the influence of peers on sexual behaviors.

Using a dichotomous variable based on participation in sexual intercourse might give information about gender differences in sexual behavior. This study used both heavy petting and sexual intercourse for the sexual behavior variable. There may be differences in initiation of sexual intercourse for males and females that could be investigated with the dichotomous variable. Given the skewed distribution of this variable, using a dichotomous variable would necessitate using log linear or logit methodology.

Recommendations for Future Research

There are many questions left unanswered by this research. Future research might focus on the family communication about sex prior to first intercourse. Information is needed about content of that communication, parental involvement, age of the teen and frequency of the interaction. This would aid understanding the process of sexual socialization by parents. School sex education course content could be evaluated to measure its importance on teen's sexual attitudes and behaviors.

Measures to assess the parent-child relationship over the course of physical-sexual changes in the child might provide information to understand transmission of family sexual

values. The impact of control and support by parents should be measured to aid awareness of their importance in the process of socialization of sexual values.

Questions about the age of initiation of sexual activity, frequency and number of partners might provide insight into the process leading to sexual intercourse. Greater understanding of this process would enable educators to design programs to help adolescents deal with decision-making about sexual activity.

Self-report measures to analyze peer sexual behavior and peer deviance would provide more accurate information about the influence of peer behaviors on teenage sexual activity. Measures to assess the peer-teen relationship might aid understanding the peer pressures related to sexual activity. Given the vast literature showing the deleterious consequences of association with deviant peers, theoretically it becomes important to identify those factors that lead a youth to join a deviant peer group.

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APPENDIX

Measures Used

Self-Report Sexual Behavior

AS 302109-Have you ever engaged in heavy petting?

AS 302110-Have you ever had sexual intercourse?

1) Yes 2) No

Sibling's Peers Dating Behavior

AS302107-How many of your close friends have engaged in heavy petting?

AS 3002108-How many of your close friends have engaged in sexual intercourse?

AS 302105-How many of your close friends date?

1) none of them 2)almost none of them 3)about half of them
4) almost all of them 5) all of them

Sibling's Peers Deviant Behaviors

Now think about your friends' behavior during the last year. During that time, how many of your close friends have done each of the following things?

AS 101013- Run away from home?

AS 101014- Skipped school without an excuse?

AS 101015- Purposely damaged or destroyed property that did not belong to them?

AS 101016- Stolen something worth less than \$25?

AS 101017- Stolen something worth \$25 or more?

AS 101018- Gone joyriding, that is, taken a motor vehicle such as a car or motorcycle, for a ride or drive without the owner's permission?

AS 101019- Hit someone with the idea of hurting them?

AS 101020- Attacked someone with a weapon or with the idea of seriously hurting them?

AS 101021- Used a weapon, force, or strongarm methods to get money or other things from people?

Responses: 1= none of them

2= a few of them

3= half of them

4= most of them

5= all of them

9= don't know, missing info

Sibling's Attitudes on Sexual Permissiveness

Indicate whether you agree or disagree with the following statements.

1= strongly agree

2= agree

3= neutral/mixed

4= disagree

5= strongly disagree

9= don't know, missing info

AS 302099- I believe that petting is acceptable before marriage when the couple is in love.

AS 302100- I believe that petting is acceptable before marriage when the couple feels strong affection for one another.

AS 302101- I believe that sexual intercourse is acceptable before marriage if the couple is in love.

AS 302102- I believe that sexual intercourse is acceptable before marriage if the couple feels strong affection for each other.

AS 302103- I believe that sexual intercourse is acceptable before marriage, even if the couple does not feel particularly affectionate towards one another.

Self-report of Unconventional Attitudes

How wrong do you think it is for someone your age to do any of the following things?

1= not wrong at all

2= a little bit wrong

3= fairly wrong

4= very wrong

9= don't know, missing information

AS 202042- Drink alcohol?

AS 202043- Hit someone with the idea of hurting them?

AS 202044- Use marijuana or other illegal drugs?

AS 202045- Take a car or motorcycle for a ride without the owner's permission?

AS 202046- Skip school without an excuse?

AS 202047- Shoplift something from a store?

Self-Report of Antisocial Behaviors

Indicate how you feel and what you do in certain situations.

1= not at all

2= agree

3= somewhat

4= a lot

5= exactly

9= don't know, missing data

AS 105018- If someone hits me first, I let him have it.

AS 105019- When someone makes a rule I don't like, I want to break it.

AS 105020- When I get mad, I say nasty things.

AS 105021- When people yell at me, I yell back.

AS 105022- If someone annoys me, I tell him what I think of him.

AS 105023- When someone is bossy, I do the opposite of what he asks.

AS 105024- If I have to use physical violence to defend my rights, I will.

Pubertal Development

Four questions are used for both boys and girls. These questions and the responses for each question are:

AS 302082 Would you say your growth in height..

1= has not yet begun to spurt ("spurt means more growth than usual)

2= has barely started

3= is definitely underway

4= seems completed

5= don't know, missing info

AS 302083 And how about the growth of body hair ("body hair" means underarm and pubic hair)? Would you say your body hair has..

1= not started growing yet

2= has barely started

3= is definitely underway

4= seems completed

9= don't know, missing info

AS 302084 Have you noticed any skin changes, especially acne?

1= my skin has not yet started showing changes

2= my skin has barely started showing changes

3= my skin changes are definitely underway

4= my skin changes are completed

9= don't know, missing information

AS 302085 Have you noticed a deepening of your voice?

1= my voice has not yet started changing

2= my voice has barely started changing

3= my voice change is definitely underway

4= my voice change has been completed

9= don't know, missing information

Three additional questions were used for girls only. These questions and the responses are:

AS 302090 Have your breasts begun to develop?

1= not yet started breast development

2= have barely started breast development

3= breast development is definitely underway

4= breast development is completed

8= not applicable, is not a girl

9= don't know, missing info

AS 302091 Have you begun to menstruate?

1= yes

2= no

8= not applicable, is not a girl

9= don't know, missing info

AS 302092 At what age did you first experience this physical change?

The question and responses for boys only is:

AS 302093 Have you begun to grow hair on your face?

- 1= not yet started growing hair
- 2= have barely started growing hair
- 3= facial hair growth is definitely underway
- 4= facial hair growth is complete
- 8= not applicable, is not a boy
- 9= don't know, missing info

Mother and Father attitudes on sexual permissiveness

Each parent self-reported on the following questions about sexual permissiveness.

Indicate whether you agree or disagree with the following statements.

- 1= strongly agree
- 2= agree
- 3= neutral/mixed
- 4= disagree
- 5= strongly disagree
- 9= don't know, missing info

AM (AF) 303053 - I believe that petting is acceptable before marriage when the couple is in love.

AM (AF) 303054 - I believe that petting is acceptable before marriage when the couple feels strong affection for one another.

AM (AF) 303055 - I believe that sexual intercourse is acceptable before marriage if the couple is in love.

AM (AF) 303056 - I believe that sexual intercourse is acceptable before marriage if the couple feels strong affection for each other.

AM (AF) 303057 -I believe that sexual intercourse is acceptable before marriage, even if the couple does not feel particularly affectionate towards one another.

PARENTING PRACTICES MEASURE

The adolescent reported on the following questions for each parent. Indicate how often each of the following things occur.

- 1=Never
- 2=Almost never
- 3=About 1/2 the time
- 4=Almost always
- 5=Always

Teen Report on Parenting

AS103050 How often does your dad talk with you about what is going on in your life?

AS103067 When you and your dad have a problem, how often can the two of you figure out how to deal with it?

AS103068 How often do you talk to your dad about things that bother you?

AS103069 How often does your dad ask what you think before deciding on family matters that involve you?

AS103070 How often does your dad give you reasons for his decisions?

AS103071 How often does your dad ask you what you think before making a decision about you?

AS103074 When you do something your dad likes or approves of, how often does he let you know he is pleased about it?

AS103075 My dad really trusts me.

AS103079 My father really cares about me.

AS102050 How often does your mom talk with you about what is going on in your life?

AS102067 When you and your mom have a problem, how often can the two of you figure out how to deal with it?

AS102068 How often do you talk to your mom about things that bother you?

AS102069 How often does your mom ask what you think before deciding on family matters that involve you?

AS102070 How often does your mom give you reasons for his decisions?

AS102071 How often does your mom ask you what you think before making a decision about you?

AS102074 When you do something your mom likes or approves of, how often does she let you know she is pleased about it?

AS102075 My mom really trusts me.

AS102079 My mother really cares about me.

3 observational scales were used in the parenting practices measure.

Responses recorded by the coders were based on the following responses.

- 1=Not at all characteristic
- 2=Mainly uncharacteristic
- 3=Somewhat characteristic
- 4=Moderately characteristic
- 5=Mainly characteristic

The 3 observational scales of parenting were: Warmth, Quality Time and Positive Affect.

APPEARANCE

Responses were coded with the following scale:

- 1=Very unattractive
- 2=Fairly unattractive
- 3=Fairly attractive
- 4=Very attractive

AX002004
AX003010
AS401PAI
AS402PAI
AS403PAI

Table 1: Zero-Order Correlations

	1	2	3	4	5	6	7	8	9	10	11	12
1. Teen's Sexual Behavior		.64*	.60*	.09	.14	.14	-.19*	.04	-.05	.05	-.23*	-.15
2. Peer Sexual Behavior	.31*		.60*	.26*	.24*	.33*	.10	-.03	-.05	-.03	-.15	-.08
3. Teen's Sexual Attitudes	.23*	.49*		.44*	.41*	.38*	.09	.10	.18*	.28*	-.33*	-.24*
4. Teen's Unconv. Att.	.16*	.43*	.48*		.41*	.53*	.11	.10	.19*	.09	-.40*	-.32*
5. Teen's Antisocial Behav.	.02	.10	.26*	.43*		.42*	.11	-.07	.11	.05	-.36*	-.35*
6. Peer Deviance	.20*	.36*	.26*	.41*	.32*		.07	-.20*	-.03	.001	-.36	-.33*
7. Teen's Phys.-Sex. Dev.	.12	.42*	.21*	.22*	.07	.004		.09	.17*	.06	.14	.20*
8. Teen's Appearance	.14	.12	.16*	.15	-.05	-.23*	.15		.29*	.20*	.10	.19*
9. Mother's Sex. Att.	.05	.12	.23*	-.04	.03	.01	-.04	-.06		.54*	-.08	.03
10. Father's Sex. Att.	.04	.06	.25*	.04	.13	.07	-.02	.05	.48*		-.08	.01
11. Father's Par. Prac.	-.18*	.0007	-.22*	-.21*	-.38*	-.35*	.008	.10	-.16*	-.12		.69*
12. Mother's Par. Prac.	-.18*	-.12	-.13	-.18*	-.32*	-.30*	.05	.18*	-.0006	-.02	.74*	

GIRLS ABOVE THE DIAGONAL, BOYS BELOW THE DIAGONAL

P = ≤ .05

*Significant at .05 level